

Community Resilience Planning, Public Health, & Emergency Management Working Group

December 19, 2019

Summary of adaptation and resilience planning around the state

A growing number of agencies, communities, and organizations are taking steps to adapt to climate change and plan for resilience. The purpose of this memo is to provide Work Group members with a high-level summary of some state and non-state activities related to climate adaptation and resilience. The following table summarizes a selection of programs, resources, and funding programs that are currently deployed around the state. This list is intended to convey the more active or utilized programs around the state and is by no means exhaustive. A full list of state programs along with deeper program descriptions is contained in the attached report, “*Maine Prepares for Climate Change, 2019 Update*,” prepared by the Maine Interagency Climate Adaptation (MICA) Work Group.

Additionally, the **Maine Climate Hub** is a more comprehensive and centralized directory of links to best-available information, selected for relevance to Maine for a given topic area, beginning with Maine-specific resources, to those developed regionally, nationally, and internationally. ([Link](#))

Resources include:

- **Maine Adaptation Toolkit:** information relevant for designing and implementing climate adaptation measures or strategies ([Link](#))
 - Community Planning: Roadmaps, Best Practices, Decision Support ([Link](#))
 - Public Health & Services: Air Quality, Disease, Heat ([Link](#))
 - Hazard Mitigation, Emergency Management & Preparedness: Risks, Strategies, Networks, Grants ([Link](#))
- **Climate Trends & Data:** impact assessments and risk and vulnerability tools and resources ([Link](#))
 - Maine’s Climate Future, National Climate Assessment - State Climate Summaries, International Assessment Reports
 - Weather & Climate
 - Flooding
 - Ocean, Aquatic, and Terrestrial Systems

Activity	Lead Agency / Organization	More Info
Technical Assistance Programs		
Municipal Planning Assistance Program (MPAP): Among many services, MPAP provides land use planning expertise for integrating climate change and growth management principles in state and local policies, programs, regulations and investments.	DACF	Link
Regional Planning Services: Regional planning organizations (RPOs) provide technical assistance and capacity to municipalities. Resilience-related assistance includes: grant writing and planning for infrastructure improvements; and incorporating resilience approaches into local plans and ordinances; regional GIS mapping services; and	DACF (MDOT, MEMA/FEMA, NOAA, EPA)	Link

coordinating shared sustainability staff among municipalities. RPOs are funded through state agency contracts, member community dues, federal programs, and foundations.		
Community Heat Response Planning: Maine CDC supported and facilitated the development of a heat response plan for the Cumberland Public Health District. This heat response plan is included in the heat portion of Maine's Climate and Health Adaption Plan and will serve as the template for other local heat response plans.	DHHS-CDC	Link
Keeping the Public Trust and Informing Voluntary Habitat Conservation: The DIFW works with private landowners, businesses, local, state, and federal agencies to help minimize the impacts of development on sensitive fish and wildlife resources, thereby helping to maintain resilient wildlife populations in the face of an uncertain climate.	DIFW (DEP, DACF)	Link
Preparing for a Changing Climate: Interpretation of local-scale data to mitigate and prepare for the local climate impacts, including reducing damage from extreme rain events. Leadership, coordination, and community engagement support for science, management, and education about climate impacts.	Maine Sea Grant	Link
Debris Management: Post disaster debris management including site options, logistics, and allocation of responsibilities in the short and longer term.	SMPDC (MEMA, YCEMA)	Link
Monitoring, Resources, and Tools		
Municipal Guidance Series: MPAP and nine RPOs collaborated on a series of guidance documents explaining how to identify threats to community resources and how to respond by integrating adaptation measures into existing local policies, practices and ordinances.	DACF (DEP, DMR, DOT)	Link
Maine Flood Resilience Checklist: A non-regulatory self-assessment tool designed to help communities evaluate how well positioned they are to prepare for, respond to, and recover from flooding events and sea level rise.	DACF	Link
Maine Coastal Hazard Portal A roadmap to currently available data related to coastal hazards and hazardous areas in Maine. Provides details on the different coastal inundation data sets through a map viewer where you can view the data, additional information on the development and characteristics of the data and download the data. Additional datasets are published as they become available.		Link
Coastal Sand Dunes and Bluffs The Maine Geological Survey (MGS) maintains an online catalog of maps for the entire coast of the state's dunes based on air photography, LiDAR imagery, and field surveys. The maps delineate Erosion Hazard Areas (EHA) as well as existing extent of front and back dune areas. EHA designation includes consideration of climate-related sea level rise and potential for inundation. -	DACF	Link Link
Increasing resilience and reducing risk of nature based coastal infrastructure practices in New England: Regional and state-level monitoring protocols for furthering concepts of living shorelines in New England. Demonstrated design, permitting, construction, and monitoring of living shoreline types in Casco Bay. Developed information, workshops, and regulatory guidance for living shorelines in Maine and New England.	DACF (DEP, DMR)	Link

Coastal Resiliency: Potential Tidal Marsh Migration and Coastal Undeveloped Blocks Maine's saltmarshes are an important transitional habitat between the ocean and the land. They provide vital habitat for a variety of animals and plants, support recreational opportunities, and perform many valuable functions including mitigating storm surge and filtering pollutants. Webpage provides a roadmap to currently available data related to tidal marshes, tidal marsh migration, and undeveloped blocks under various sea level rise scenarios.	DACF	Link
Climate Maps for Vulnerable Habitats and Species: Maps that identify locations where climate-vulnerable areas and important wildlife habitats overlap. Helps inform mitigation measures for some of Maine's most at risk wildlife species and habitats.	DIFW	
Maine Flood Hazard Map Interactive web map contains National Flood Hazard Layers (NFHL) that are the most current digital FIRM maps accepted and approved by FEMA, and Q3 Flood Maps that is a layer of digitized flood zones from the old, approximate data. It should be used with confirmation from the official, printed FIRM maps.	DACF	Link
Weathering Maine: Mapping Threats to Maine Historic Resources: A GIS map product containing properties listed in the National Register of Historic Places and as National Historic Landmarks and layers illustrating various threats from climatic change. This is offered as a planning tool for researchers, property owners and governmental officials.	MHPC	
Municipal Guidance for Debris Management Siting: DEP coordinates with MEMA to provide municipal guidance for siting temporary debris management locations. DEP can provide pre-authorization of sites that meet standards to avoid impacts to public health or the environment. If towns have adopted a debris management plan before the date of a declared incident period, then they can qualify for a one-time incentive of a 2% cost share adjustment (during the pilot period only).	DEP, MEMA	
Mapping Lyme Disease at the Town Level: Maine CDC compiled and geo-coded Lyme disease incidence data at the town level to respond to frequent public records requests, to provide actionable data for Lyme reduction and tick control activities at the local level, and to support modeling of projected future disease burden.	DHHS-CDC	Link
Building Resiliency Along Maine's Bluff Coast in Casco Bay: The project developed tools to slow erosion and increase resilience on bluff coasts, including assessing the appropriateness of living shoreline strategies.	DACF (DMR)	Link
Hazard Mitigation Planning: State, tribal, and local governments engage in hazard mitigation planning to identify risks and vulnerabilities associated with natural disasters and to develop long-term strategies for protecting people and property from future hazard events. Mitigation plans are key to breaking the cycle of disaster damage, reconstruction, and repeated damage.	MEMA, counties	
Maine Climate Future & Maine's Climate Future Reports: A framework of plausible future climate scenarios to inform adaptation, mitigation, and sustainability efforts. At the core of <i>Climate Futures</i> is the " Climate Re-Analyzer ", an interactive website for visualizing an array of climate and weather models and station data.	UMaine Climate Change Institute	Link1 Link2
Coastal Resilience Mapping Tool: Web mapping tools that help identify conservation opportunities and includes a Coastal Risk Explorer that helps communities plan for sea level rise by identifying roads that may be flooded and inaccessible in an emergency.	The Nature Conservancy	Link

Funding Sources Available to Communities		
Coastal Community Grant: Provided annually on a competitive basis to municipalities and regional planning commissions for activities including vulnerability assessments, adaptation planning, community education, and strategy development.	DACF	Link
Shore and Harbor Grant: Provides competitive awards to coastal municipalities to conduct waterfront planning. Vulnerability assessments are eligible.	DMR	Link
Clean Water State Revolving Loan Fund: Wastewater & Stormwater Adaptation Planning and Implementation.	DEP	Link
Stream Crossing Upgrade Grant Program: Competitive grant program that matches local funding for the upgrade of municipal culverts at stream crossings to improve fish and wildlife habitats and increase community safety.	DEP	Link
Drinking Water State Revolving Fund Loans and Capacity Development Grants: Provides low interest capital improvement loans and capacity development grants for public water system projects that, among other objectives, seek to bolster resilience to drought and flooding through infrastructure upgrades.	DHHS-CDC	Link
Hazard Mitigation Assistance Grant Programs: Funds projects identified in local hazard mitigation plans that are sustained actions taken to reduce or eliminate the long-term risk from natural hazards. By mitigating the impacts of natural hazard events, HMA projects increase resilience to future events that may be exacerbated by climate change.	MEMA	Link
ShoreUp Maine: Technical assistance and small grant funding for community-defined and community-specific approaches to mitigate and plan for the impacts of rising seas.	Island Institute	Link
Historic Preservation Fund Grants: Available for planning, evaluation, adaptation or mitigation activities for properties, archaeological sites or historic districts listed in the National Register of Historic Places threatened by changing climatic conditions.	MHPC	Link

Coordination

Coordination efforts and networks exist both within and outside of state government. Examples of external networks (and their facilitators) include but are not limited to: Maine Climate Change Adaptation Providers Network (Maine Sea Grant, Maine DEP); Maine Climate Change Institute (UMaine); ShoreUp Network (Island Institute); Gulf of Maine Climate Network (Gulf of Maine Council); Maine Silver Jackets; Maine Water/Wastewater Agency Response Network (ME WARN); Community Emergency Response Teams (CERTS); New England Municipal Sustainability Network (Urban Sustainability Directors Network).

The Maine Interagency Climate Adaptation (MICA) Work Group is coordinated by DEP with representatives from eight state agencies. The group continues a 2013 Governor's request for interagency coordination of state adaptation activities. MICA aims to deliver an interdisciplinary approach, coordinated across multiple stakeholders who provide information to enable and enhance consideration of climate-related factors that affect communities, homes, or businesses. MICA brings together technical resources for adaptation, resilience, and mitigation from across agencies. MICA staff collaborate on cross-

agency projects and make public information and assistance opportunities on the state's climate webpages and through the Maine Adaptation Toolkit.

- *While MICA could provide agency coordination, a robust, flexible and tailorable, statewide organizational strategy and risk framework to fund and deliver technical assistance to communities does not exist.*

Outcomes

Resources are increasingly available in online formats and in reports with accompanying technical assistance. Maine-specific resources, as opposed to more general national resources, are increasingly giving communities access to more relevant science and technical information. GIS analyses, interactive maps, clearinghouses of data, decision support tools, and toolkits housing this information are reported by communities to be particularly helpful. As information and assistance grows, local leaders are increasingly interested in engaging in risk assessment and planning. Leaders also note that delivery and use of these resources is more effective when paired with technical assistance and personal connection.

A growing number of communities are conducting vulnerability assessments and have begun to take actions in specific areas on a project by project basis. In general, this trend is stronger in coastal areas than for inland and riverine communities, but not exclusively. Examples include risk assessments (primarily for infrastructure including stream crossings, culvert spans, drinking and waste water infrastructure) and integration of climate change into municipal ordinances and comprehensive plans. Several regional scale vulnerability assessments and planning processes have also been conducted for transportation infrastructure, ecosystems and wildlife, and public health impacts.

- *While these examples of progress are encouraging, they do not constitute sustained, multi-hazard, comprehensive (multi-sector) and holistic action toward resilience on the scale that is needed in Maine.*